Idaho State Department of Agriculture

Northern Owyhee County Aquifers Pesticide Detections And Idaho's Pesticide Management Plan

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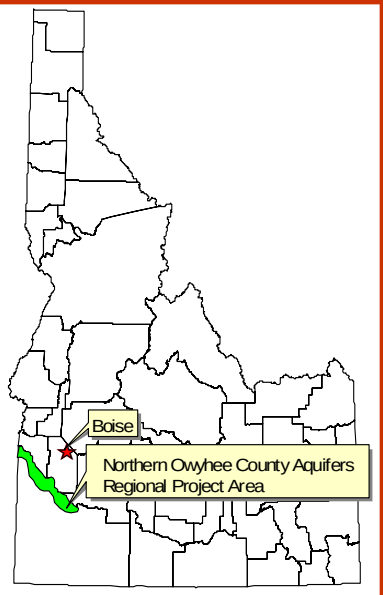
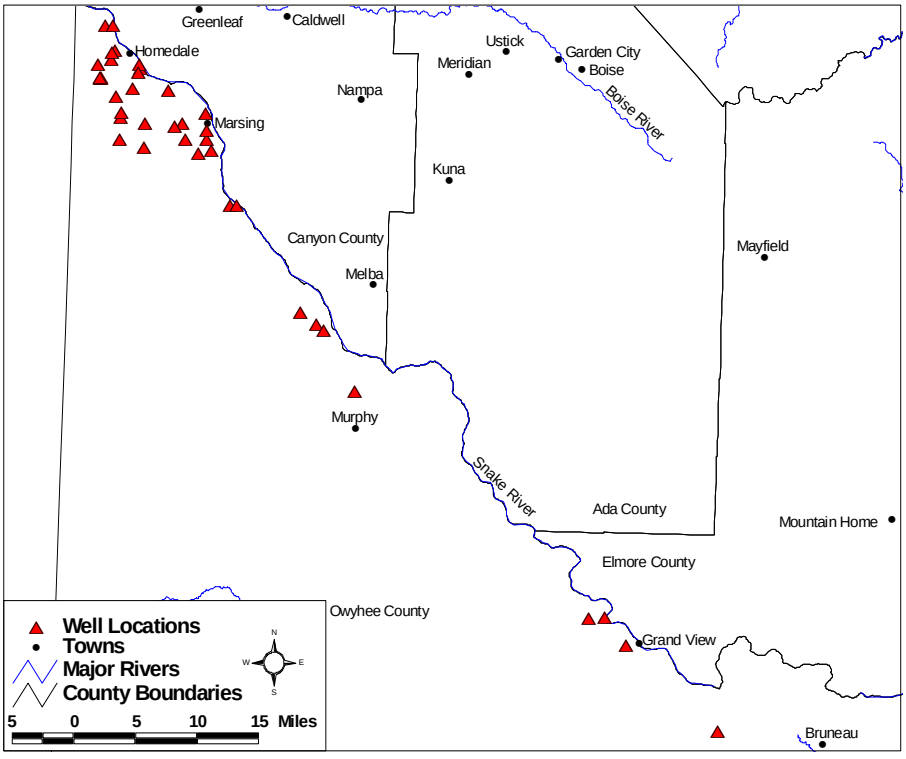
The Idaho State Department of Agriculture (ISDA) Northern Owyhee County Aquifers monitoring project is located south of the Snake River (refer to map on right). ISDA began sampling this project in 1999. The project area encompasses an approximately eight mile wide and 75 mile long area of irrigated agricultural land adjacent to the Snake River.



Ground water used for domestic purposes in the project area originates from two sources: (1) a shallow system of coarse grained sands and gravels, and (2) a deeper confined system of black sand under a thick blue clay layer (Carlson et al., 2001). Well driller reports indicate the shallow aquifer to be approximately 50 feet below the ground surface and the deeper aquifer to be located at varying depths, generally less than 300 feet. The shallow aquifer is composed of alluvial deposits, mainly sand and gravel, with local interbedded clay layers. The shallow subsurface alluvial deposits are vulnerable to leaching of contaminants. Potential sources of recharge to this shallow system are applied irrigation waters, canal leakage, and precipitation. The general ground water movement appears to be toward the Snake River, which is an area of probable ground water discharge (Carlson et al., 2001).



The map above shows ISDA well sampling locations of the Northern Owyhee County Aquifers regional project. ISDA has sampled approximately 37 wells on a yearly basis since 1999 for various constituents including pesticides and nitrate.

Before using any pesticide,

READ, AND FOLLOW THE LABEL!

The Idaho State Department of Agriculture (ISDA) is the lead agency in developing the *Idaho Pesticide Management Plan (PMP) for Ground Water Protection*. ISDA has the authority to implement pesticide programs through a cooperative working agreement with the Environmental Protection Agency (EPA), Idaho state laws, and department rules. The Idaho PMP outlines processes to protect ground water from pesticides and defines pesticide detections based on the concentration of the detection compared to a reference point. The reference point refers to health based concentrations. Idaho has adopted the Environmental Protection Agency's Maximum Contaminant Levels (MCLs) in the Idaho Ground Water Quality Rule (1997). Where no MCL exists, ISDA will use EPA Health Advisories Levels (HAL) first if they exist, and then an EPA Reference Dose (RfD) number.

The PMP categorizes detection levels into the following levels:

Level 1: Detection above the detection limit to less than 20% of Reference Point.
Level 2: Detection at 20% to less than 50% of Reference Point.
Level 3: Detection at 50% to less than 100% of Reference Point.
Level 4: Detection equal to or greater than 100% of Reference Point.

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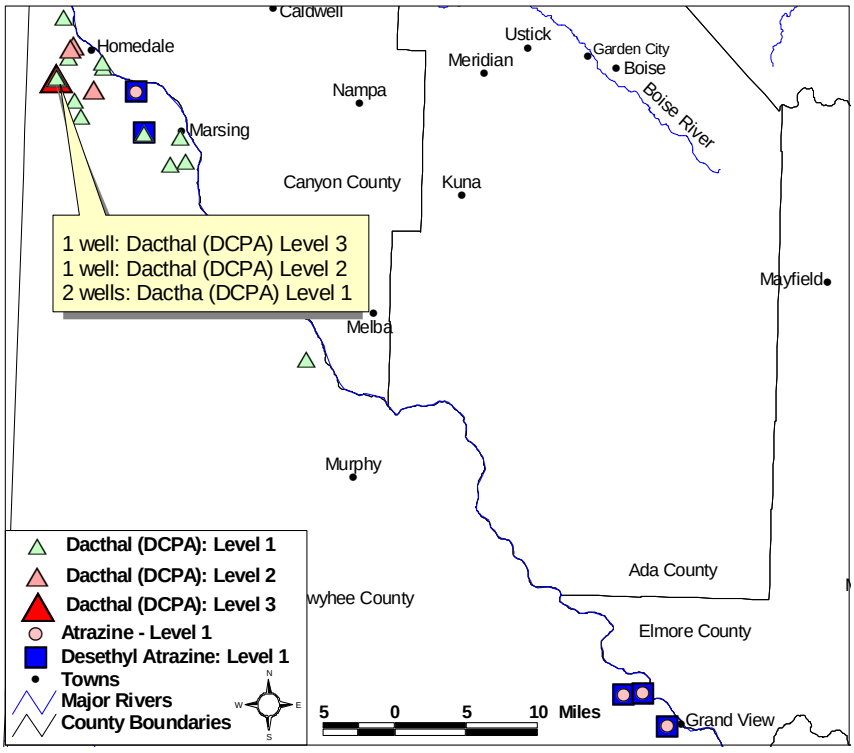
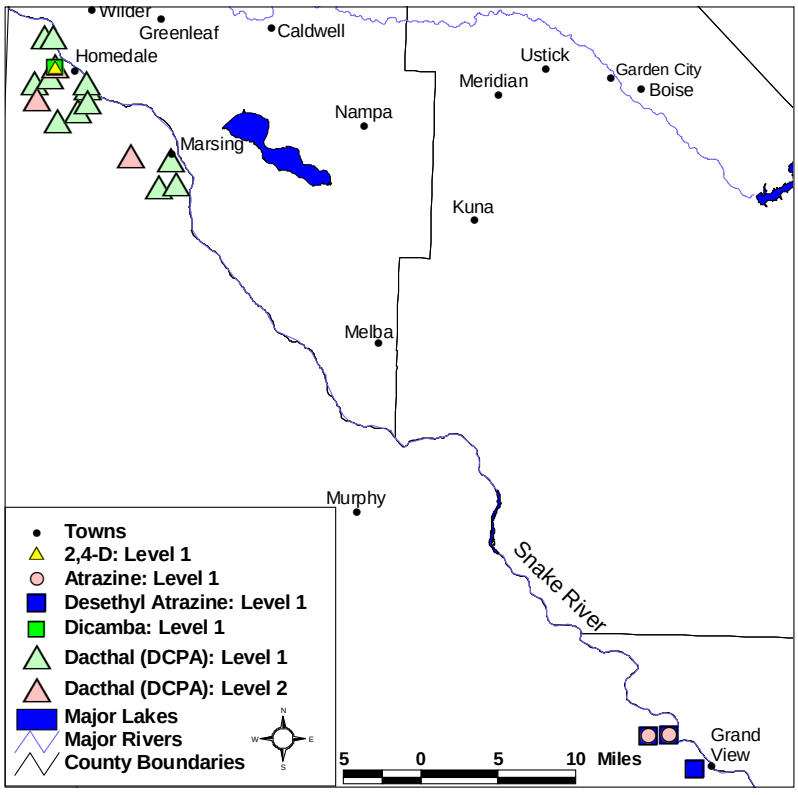
2001 ISDA Pesticide Detections

The map to the right shows the results from the 42 wells that were tested for pesticides in 2001, including testing of five additional wells through additional grant money provided by EPA. Desethyl atrazine, a breakdown product of the pesticide Atrazine, was detected in five wells at PMP Level 1 concentrations. Atrazine was detected in four wells at PMP Level 1 concentrations. Dacthal (DCPA) was detected in 18 wells. Thirteen of the Dacthal (DCPA) detections were in the PMP Level 1 category, four detections were in the PMP Level 2 category, and one detection was in the PMP Level 3 category. All pesticides detected had concentrations less than health standards set by the EPA or the state of Idaho. For the PMP Level 2 detections, ISDA will consider establishing an area of pesticide concern through rule making. ISDA will also develop a monitoring plan and determine likely sources, encourage voluntary best management practices (BMPs), potentially develop a chemical specific PMP through rule making, and conduct chemical use inspections. For the PMP Level 3 detections, ISDA will consider establishing an area of pesticide restriction through rule making, in addition to monitoring and evaluation that occurs in a PMP Level 2 detection response.





2003 ISDA Pesticide Detections

The map to the left shows the results from the 36 wells that were tested for pesticides in 2003. Dicamba and 2,4-D were detected in one well near Homedale at PMP Level 1 concentrations. Atrazine was detected in two wells near Grand View at PMP Level 1 concentrations. Desethyl Atrazine, a breakdown product of Atrazine, was detected in three wells near Grand View at PMP Level 1 concentrations. Dacthal (DCPA) was detected in three wells at PMP Level 2 concentrations, and in 12 wells at PMP Level 1 concentrations. All Dacthal (DCPA) detections occurred near Homedale and Marsing. ISDA will notify and educate well owners, assess historical data, and educate pesticide applicators for PMP Level 1 detections.

It is important for applicators to follow the pesticide label and for ISDA to continue to work with applicators to protect ground water.

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REFERENCE

Carlson, R., G. Bahr, and L. Boyle, 2001. Ground Water Quality Monitoring Results for Northwest Owyhee County, Idaho. Idaho State Department of Agricultural Technical Summary #6.

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